

## HYDROCHLORIC ACID - Muriatic

4500  
in Iron

LCP CHEMICALS  
A DIVISION OF HANLIN GROUP, INC.  
RARITAN PLAZA II, RARITAN CENTER  
EDISON, N.J. 08837

DATE: 9/89  
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MATERIAL SAFETY DATA  
FOR  
HYDROCHLORIC ACID  
18, 20, 22, 23 DEG. BAUME

20 22 23 4

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* SECTION I	MATERIAL IDENTIFICATION *
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CHEMICAL NAME: HYDROCHLORIC ACID	C.A.S. NO.: 7647-01-0
SYNONYMS: MURIATIC ACID, HYDROGEN CHLORIDE	R.Q.: 5000 LBS.
D.O.T. IDENTIFICATION NO.: UN 1789	(100% BASIS)
TRADE NAME: HYDROCHLORIC ACID	CHEMICAL FORMULA: HCL
D.O.T. SHIPPING NAME: HYDROCHLORIC ACID SOLUTION	
CHEMICAL FAMILY: ACID	N.F.P.A. REGISTRY: 3-0-0
LABELING: CORROSIVE	PLACARD: UN 1789

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* SECTION II (SEE SECTION XI)	INGREDIENTS AND HAZARDS *
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PRINCIPAL COMPONENT: HCL C.A.S. NO.: 7647-01-0 PERCENT: 28-31-35-37	
BALANCE IS WATER	
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES: TOXIC FUMES	
CAN BE GENERATED BY CONTACT WITH ALKALIS, OXIDANTS AND MANY	
METALS WHICH CAUSE SPONTANEOUS TEMPERATURE RISE.	
ADDITIONAL INFORMATION: TLV 5 PPM CEILING ACGIH;	
PEL 5 PPM CEILING OSHA	

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* SECTION III	PHYSICAL DATA *			
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BAUME:	18	20	22	23
BOILING POINT DEG. F:	195	182	144	123
SPECIFIC GRAVITY:	1.142	1.160	1.179	1.189
VAPOR DENSITY 20C:	1.3	1.3	1.3	1.3
PERCENT VOLATILE BY VOLUME:	100	100	100	100
WEIGHT PERCENT HCL:	27.9	31.4	35.2	37.2
FREEZE/SOLIDIFICATION TEMP:	-49	-63.4	-86.3	-101.2
SOLUBILITY IN WATER:	INFINITE	INFINITE	INFINITE	INFINITE
APPEARANCE/ODOR:	COLORLESS TO LIGHT YELLOW FUMING LIQUID.			
PUNGENT AND SUFFOCATING ODOR.				
MOLECULAR WEIGHT:	36.47	PH: 0 OR LESS THAN 0.1		

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* SECTION IV	FIRE AND EXPLOSION DATA *
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FLASH POINT (METHOD): NONE NON-COMBUSTIBLE	
FLAMMABLE LIMITS: NONE	
EXTINGUISHING MEDIA: SUITABLE FOR SURROUNDING FIRE.	
SPECIAL FIRE FIGHTING PROCEDURES: USE PROTECTIVE CLOTHING SUITABLE	
FOR ACIDS AND SELF CONTAINED BREATHING APPARATUS.	
UNUSUAL FIRE/EXPLOSION HAZARDS: FLAMMABLE HYDROGEN GAS IS GENERATED	
BY REACTION WITH MANY METALS.	
ADDITIONAL INFORMATION: THIS MATERIAL CAN BE NEUTRALIZED WITH AN	
ALKALI SUCH AS WEAK CAUSTIC SOLUTIONS OR SODA ASH.	

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# HYDROCHLORIC ACID

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* SECTION V	HEALTH HAZARD DATA *
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NIOSH THRESHOLD LIMIT VALUE: NONE      NIOSH (DHEW 78-210 SEPT.1985)  
 OSHA PERMISSIBLE EXPOSURE LIMIT: 5 PPM CEILING (MARCH 1989)  
 ACGIH LIMIT VALUE: 5 PPM CEILING (1988-89 EDITION)  
 NTP CARCINOGEN: NONE- WORLD HEALTH ORGANIZATION  
 IARC CARCINOGEN: NONE- WORLD HEALTH ORGANIZATION  
 MUTAGENIC: NONE- WORLD HEALTH ORGANIZATION  
 TERATOGENIC: NONE- WORLD HEALTH ORGANIZATION  
 REPRODUCTIVE TOXICITY: NONE- WORLD HEALTH ORGANIZATION  
 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: RESPIRATORY AILMENTS  
 PRIMARY ROUTES OF EXPOSURE: INHALATION, BODY CONTACT  
 EFFECTS OF EXPOSURE:  
     INHALATION: PUNGENT, SORE THROAT, COUGHING, SHORTNESS OF  
                 BREATH. CONCENTRATIONS ABOVE 50 PPM WILL DAMAGE THE UPPER  
                 RESPIRATORY TRACT.  
     SKIN: CORROSIVE, REDNESS, BURNS  
     EYES: CORROSIVE, BURNS, PAIN, BLURRED VISION  
     INGESTION: CORROSIVE TO ESOPHAGUS AND STOMACH.      MAY LEAD TO  
                 CONVULSIONS  
 EMERGENCY FIRST AID:  
     INHALATION: REMOVE TO FRESH AIR, KEEP UPRIGHT POSITION,  
                 PROVIDE OXYGEN, GET MEDICAL AID.  
     SKIN: WASH WITH WATER, GET MEDICAL HELP.  
     EYES: FLUSH WITH WATER FOR 15 MINUTES, INCLUDING UNDER THE  
             EYELIDS. GET MEDICAL HELP.  
     INGESTION: DO NOT INDUCE VOMITING-GET MEDICAL AID-RINSE  
                 MOUTH WITH WATER-DRINK PLENTY OF WATER-GIVE MILK OF  
                 MAGNESIA OR LIME WATER.  
 ADDITIONAL INFORMATION: CONCENTRATIONS ABOVE 1300 PPM ARE BELIEVED  
                             TO BE IMMEDIATELY DANGEROUS TO LIFE.  
 TARGET ORGANS: RESPIRATORY SYSTEM, SKIN, EYES.

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* SECTION VI	REACTIVITY DATA *
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STABILITY: STABLE UNDER NORMAL CONDITIONS.  
 CONDITIONS TO AVOID: HEAT SOURCES, CONTACT WITH METALS OR ALKALIS,  
                         AND BODY CONTACT.  
 INCOMPATIBILITY: BASE METALS, METAL OXIDES, ALKALINE MATERIALS,  
                         CARBONATES, AMINES, HYDROXIDES.  
 HAZARDOUS DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE GAS, HYDROGEN  
 POLYMERIZATION: WILL NOT OCCUR  
 ADDITIONAL INFORMATION: STRONG MINERAL ACID - CORROSIVE TO MOST  
                             COMMON METALS.

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* SECTION VII	ENVIRONMENTAL PROTECTION PROCEDURES *
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SPILL RESPONSE: CONTAIN SPILL OR LEAKS IN PLASTIC CONTAINERS,  
                         DIKES, PONDS, OR RETENTION AREAS WHERE SPILLAGE CAN BE  
                         NEUTRALIZED WITH SODA ASH OR ALKALINE SOLUTIONS. CONSIDERE  
                         RECOVERY IF PROPER EQUIPMENT IS AVAILABLE.  
 WASTE DISPOSAL METHODS: DISPOSAL IS CONTINGENT UPON ALLOWABLE SALT  
                             CONCENTRATIONS AND PH IN THE EFFLUENT STREAM.  
 ADDITIONAL INFORMATION: FOLLOW FEDERAL, STATE, LOCAL AND PERMITP  
                             REGULATIONS. PREPARE FOR EMERGENCIES IN ADVANCE, SUCH AS  
                             ACID RESISTANT FLOORS AND DRAINAGE, NEUTRALIZATION MATERIALS,  
                             CONTAINMENT SAND, ETC.

# HYDROCHLORIC ACID

## \* SECTION VIII SPECIAL PROTECTION INFORMATION \*

EYE PROTECTION: SPLASH GOGGLES OR FACE SHIELD  
RESPIRATORY PROTECTION: NIOSH APPROVED ACID GAS CHEMICAL CARTRIDGE  
RESPIRATOR OR FULL FACE WITH CANISTER. FOR UNKNOWN  
CONCENTRATIONS USE APPROVED SELF CONTAINED BREATHING APPARATUS.  
OTHER PROTECTION: DISPOSABLE PLASTIC SUITS, OR A RUBBER APRON.  
VENTILATION RECOMMENDED: SUFFICIENT TO CONTROL BELOW TLV  
REQUIREMENTS. DUE TO LOW FREEZE POINTS THIS MATERIAL IS  
NORMALLY STORED OUTSIDE OF BUILDINGS.  
GLOVE TYPE RECOMMENDED: RUBBER, LATEX, PLASTIC  
ADDITIONAL INFORMATION: AVOID BODY CONTACT AND INHALATION OF FUMES

## \* SECTION IX SPECIAL PRECAUTIONS \*

HYGIENIC PRACTICES IN HANDLING/STORING: WEAR EYE, RESPIRATORY AND  
CLOTHING TO PROTECT AGAINST ACCIDENTAL SPILLS.

PRECAUTIONS TO BE TAKEN FOR HANDLING/STORING:

1. STORE IN COMPATIBLE EQUIPMENT (ACID PROOF)
2. PROVIDE VENTILATION
3. STORE AWAY FROM ALKALINE MATERIALS, OXIDIZING AGENTS AND  
BASE METALS.
4. DIKE STORAGE AREAS TO MEET FEDERAL, STATE, AND LOCAL  
REGULATIONS.

PRECAUTIONS FOR REPAIR MAINTENANCE OF CONTAMINATED EQUIPMENT:

THOROUGHLY WASH WITH WATER AND CHECK THAT RESIDUAL IS SAFE.

OTHER PRECAUTIONS: KEEP METALS AWAY FROM STORAGE AREAS AS CONTACT  
MAY CAUSE HYDROGEN GENERATION.

ADDITIONAL INFORMATION: ONLY TRAINED PERSONNEL SHOULD HANDLE THIS  
MATERIAL AND SOMEONE SHOULD BE IN ATTENDANCE THROUGHOUT ANY  
LOADING, UNLOADING, OR TRANSFER OPERATION.

## \* SECTION X TRANSPORTATION \*

USUAL SHIPPING CONTAINERS: RUBBER LINED TANK CARS, TRUCKS, PLASTIC  
DRUMS AND GLASS CARBOYS.

USUAL SHELF LIFE: UNLIMITED STORAGE/TRANSPORT TEMPS: AMBIENT  
SUITABLE STORAGE MATERIALS/COATINGS: NON-METALLIC, MATERIAL  
APPROVED RESISTANT TO STRONG MINERAL ACIDS.

UNSUITABLE: MOST COMMON METALS, CONCRETE

OTHER INFORMATION: PROVIDE VENTILATION. STORE AWAY FROM ALKALINE  
MATERIALS, OXIDIZING AGENTS, AND BASE METALS. DIKE STORAGE  
AREAS TO MEET FEDERAL, STATE, AND LOCAL REGULATIONS. KEEP  
METALS AWAY FROM STORAGE AREAS WHICH MAY CAUSE HYDROGEN GENER-  
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SECTION XI

REGULATORY INFORMATION \*

TOXIC SUBSTANCES CONTROL ACT - THIS SUBSTANCE IS LISTED ON THE TOXIC SUBSTANCES CONTROL ACT CHEMICAL SUBSTANCE INVENTORY 1985 EDITION VOLUME I.

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APPENDIX A, THRESHOLD PLANNING QUANTITY 500 POUNDS - GAS ONLY SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45

THIS PRODUCT OR MIXTURE CONTAINS A TOXIC CHEMICAL OR CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 - SEE SECTION II.

COMPREHENSIVE RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA) THIS PRODUCT IS SUBJECT TO CERCLA REPORTING REQUIREMENTS.

REVISED: 9/89

SUPERCEDES: 11/86; 11/87; 9/88

LCP MSDS. NO.007647010

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